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Exploring the Impacts of Student-Led Sustainability Projects with Secondary School Students and Teachers

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Abstract: Secondary school students are granted few opportunities to change their world, yet they are expected to engage fully as citizens the moment they leave school. This issue is growing starker with multiple global crises contributing to mental health concerns. This situation stimulated a practical education for sustainability project designed to promote student agency by supporting small, student-led, community-based projects, planned and supported within the secondary school context. This research ran alongside the project in order to investigate (a) the impact of implementing these projects on the students involved and (b) the implications of this for their teachers. The research approach was based on Cultural-historical Activity Theory, which explores the learning generated through multi-layered interactions within a given activity system. In stimulating student agency, it was clear that the project had challenged existing practice. Students sensed a shift in power relations, remarking on how teachers respected and listened to their opinions. Those teachers who appeared more authoritarian appeared to experience the greatest transformation although ceding power did not come naturally, particularly where this challenged notions around teacher responsibility. In this way, teachers' professionalism threatened to become the means by which they withheld power from their students. Implications of this for schools and policy are considered.

Keywords: student agency; teacher agency; activity theory; education for sustainable development; secondary schools

Citation: Vare, Paul Exploring the Impacts of Student-Led Sustainability Projects with Secondary School Students and Teachers. *Sustainability* **2021**, *13*, 2790. https://doi.org/10.3390/su13052790

Academic Editor: Andrea Weinberg
Received: 18 January 2021
Accepted: 3 March 2021
Published: 4 March 2021

1. Introduction

In the early Twenty-first Century challenges such as rising inequality, climate change and global biodiversity loss present young people with the spectre of monumental yet unknowable change. Such a situation can exacerbate feelings of powerlessness as well as anxiety [1,2]; it is unsurprising therefore that many young people are also experiencing a crisis in relation to their mental health [3]. Students in mainstream schools dominated by high stakes academic examinations have scant opportunity, power or expectation upon them to effect societal change. Viewed as "human becomings" rather than human beings [4] they are suddenly presumed to be ready to engage fully as citizens the moment they leave school. Little wonder therefore that some young people lose patience and demand to be heard through, for example, the global climate strikes [5], inspired by the example of activists such as Greta Thunberg or Autumn Peltier.

Without wishing to underplay the complexity of these interlinked challenges, one significant dimension that connects them all is agency, that is, the capacity to innovate and effect change. This paper presents research that ran alongside a European Union-funded activity (the Project) that set out to enhance student agency in five secondary (high) schools in different locations across Europe. The research sought to identify firstly, the impacts of the Project on students and then consider the professional and pedagogical implications for teachers of working in this action-oriented manner within formal educa-

tion. The research was based on Cultural-historical Activity Theory [6,7], viewing the Project as an *activity system* and exploring relationships and contradictions among the components of the system.

1.1. The Project

The project worked with approximately fifteen teachers and over 100 students in five different EU countries (Greece, Romania, Slovenia, Spain and UK). Coordinated by the University of Gloucestershire (UK), the project ran for two years from October 2017. From the outset, care was taken to agree the vision and purpose of the project among participating institutions as well as discussing practical questions about implementation. The agreed aim was to show how student agency could be enhanced within the formal education system by facilitating a program of practical, student-led community-based projects, each was to relate to sustainability and thus aimed at making the students' world a better place to live and work.

Some of the teachers had worked on similar projects before but these did not have a coherent theory underpinning them other than an effort to avoid "traditional teaching", characterized as formal, classroom-based, teacher-led instruction. Several schools and teachers were new to this way of working and the university introduced a range of "key concepts" (see Section 1.2 below) to provide a broad conceptual framework within which all of the diverse school projects could operate.

Following an initial transnational meeting in the UK, schools worked in their localities adopting a variety of approaches to the development of projects involving either small teams of students or whole class groups. Partners remained connected through an online platform and came together to share their experiences at three further transnational meetings hosted by partners in Spain, Greece and Slovenia.

Although the Project was initially conceived solely as a practical activity, it quickly became apparent that this would be a prime opportunity to conduct research into the impacts of implementing an action-oriented approach within secondary schools. A global review of learning for sustainability noted the tendency to focus on primary and early years education and highlighted the need for further research on secondary school education, "particularly in relation to action-oriented education and the development of learner agency" [8] (p. 117).

1.2. Key Concepts

1.2.1. Agency

Research has shown how the danger of depressing young adolescents by teaching about environmental issues can be mitigated by engaging them in the complexity of issues in practical ways [9]. In fact, there is nothing new in seeking to empower young people; as early as 1762, Rousseau published Emile in which he saw emancipation, allowing more personal freedom, as critical to a child's education [10]. More recently the notion of student agency featured in Hart's [11] Ladder of Young People's Participation, adapted from Arnstein's ladder of citizen's participation [12]. This differentiates between non-participation in projects (e.g., tokenism or decoration) and various forms of participation with youth-led action being second best to young people and adults sharing decision-making. The *OECD Learning Framework 2030* [13] highlights the central place for student agency in educating for the future and suggests that two factors in particular can help learners to develop this. One of these is a strong foundation in literacy, numeracy and digital skills while the other is a "personalized learning environment" that:

> "…supports and motivates each student to nurture his or her passions, make connections between different learning experiences and opportunities, and design their own learning projects and processes in collaboration with others" [13] (p. 4).

These two factors map onto two types of agency identified by Campbell [14] in an attempt to dispel the ambiguity created by the term being conflated with both actors (agents) and (agentic) action, which are different phenomena. Campbell differentiates between the *power of agency* (Type 1) and *agentic power* (Type 2). Type 1 reflects an ability to act freely, which can bring about change in the individual, whereas Type 2 refers to the ability to act in the face of structural constraints, thereby bringing about change in society.

That is not to suggest Type 1 is lesser from an educational perspective. Student teachers at my own institution claim consistently that their overarching motivation to become a teacher is to "help children achieve their full potential". When pressed on what this actually means, students often describe this as acting autonomously and with creativity rather than in terms of achieving high grades in specific disciplines. This maps directly onto what Campbell terms Type 1 agency. Interestingly, Campbell does not claim that these two conceptions of agency rely on each other to any significant extent. Having autonomy (Type 1 agency) at the individual level does not necessarily mean that we are not constrained by systemic factors such as regulations and cultural mores. Indeed, "individuals may well need to be autonomous and creative in order to be able to conform" [14] (p. 416). This might be seen as a warning, to remember that exhortations to achieve academic "excellence" or simply be "the best we can be" can be made quite legitimately by authorities who may promote Type 1 agency while having no interest in young people challenging the *status quo* however socially and environmentally unsustainable it may be. By grasping this dual use of the term agency, we avoid being restricted to concepts linked to human capital and the earning potential of individuals and expand the concept to include young people's contributions to a more sustainable society [15].

All agency is gained within some form of social structure but Type 2 agentic acts are those which often challenge the structures that can constrain our actions or aspirations. For the purposes of this research, structure is not understood in a deterministic way, rather it is seen as a condition that emerges through the collective and deliberate actions of many people, a relationship described by Giddens as *structuration* [16,17]. This suggests that the possibility for change is ever present as the performance of the rules that are determined by social structures can, through frequent use, change those structures in turn. This offers hope to those whose practice is guided by emancipatory ideals [18–20] or who feel that they themselves are battling against the odds to bring about positive change in their own institution. This in turn raises the issue of *teacher* agency, something which must be addressed if innovation is to take place and be sustained at classroom and ultimately system level [21,22].

1.2.2. Projects as Authentic Context for Education for Sustainable Development

While the initial focus of the Project was student agency, this was always seen as providing an authentic context that would contribute in some way to the students' education for sustainable development (ESD). Conceptually, ESD can be viewed as a combination of two approaches: ESD 1, a largely instrumental approach emphasising knowledge *about* sustainable development and the promotion of preferred behaviors, and ESD 2, which explores the contradictions inherent in sustainable development and seeks to "learn our way forward" into new ways of doing things [23]. ESD 1 in isolation can instil a sense of urgency but risks overwhelming students thus leading to inaction; ESD 2 on the other hand demands a critical engagement with issues in order to understand their various facets. ESD 1 is still necessary as it highlights content and thus purpose for this engagement.

The ESD literature suggests that agentic actions have been encouraged as a stimulus to student learning in the context of various issues such as climate change [24–26]. In these cases, the emphasis has been on the issues (ESD 1) rather than an open-ended process to developing agency per se. That said, these projects simultaneously promoted agentic action leading to observations such as young people "discovering themselves and carving a

place in the world" [26] (p. 272) suggesting a sense of agency would likely extend beyond the focus of that particular project.

There was an expectation that the student-led, community-based actions that were core to this research, would foreground skills such as critical thinking and conflict resolution as students (and teachers) explored new ways of working together. In this way, it was expected that the Project would foreground an ESD 2 approach while remaining mindful of the need for students to research their projects in order to grasp the larger issues that their projects were addressing albeit to a limited extent.

1.2.3. Action Competence

Discussions of agency and ESD were not familiar to the participating teachers on the Project so to clarify the approach the action-oriented concept of action competence was introduced [27]. The term "action" has a specific meaning in action competence; it must be more than a diversion from academic learning, rather it should be done with a specific change in mind. Crucially, an action should be something that the students have decided to do themselves as a result of their own investigation. If they are simply guided by their teachers, then this may have merit but would merely be an activity. The action competence cycle is completed by the students evaluating any change that may have taken place as a result of their action. This approach was helpful because it could be broken down into four distinct steps, summarized by the mnemonic IVAC: Investigation (researching issues in the students' local community); Visioning (considering alternatives/planning); Action (making decisions and being responsible for these); Change (evaluating the impact of the action).

1.2.4. Psychological Impacts and the PERMA Model

While action competence and the concept of agency was presented explicitly to the participating teachers, the "positive psychology" model, PERMA [28], was identified as a useful lens for the research itself because it links the mental health concerns raised in the introduction to this paper with the activity of the Project. Seligman's mnemonic PERMA, sums up the attributes of positive psychology: Positive emotions; Engagement (finding flow); Relationships; Meaning; Accomplishment. This suggests that an immersive and shared experience in an authentic context, such as students devising and implementing their own practical sustainability projects, are likely to have a positive impact on the psychology of the participants irrespective of the specific content knowledge gained in the process. PERMA therefore provides a relevant set of attributes to consider while reviewing the emerging data.

1.2.5. Educator Competences for ESD

Much has been written on the issue of ESD competences in recent years with several frameworks of core competences being suggested [29–33]. It was not the purpose of this research to examine these in detail, rather the project provided an opportunity to take an in-depth look at the specific dimension of action-oriented learning, something that all ESD competence frameworks appear have in common [34]. In this way the research hoped to reveal some of the complexity involved, particularly for the secondary school teacher, in taking seriously just one component of these frameworks. In a recent review, Wilhelm et al. [35] have observed that there is insufficient constructive alignment between competence models for change agency and the development of pedagogies through which these aims might be achieved. Similarly, Taylor et al. [8] noted that, despite a wide range of case studies being available, further research is required into the factors that support the effective implementation of action-oriented learning for sustainability. This highlights the timeliness of the Project and its related research, which asked specifically: *what is the impact of implementing student led community projects on the students involved and what are the professional and pedagogical implications of this for teachers in formal education?*

2. Materials and Methods

An interpretive approach [36] was adopted as the research set out to understand the context and perspectives of the participants. This allowed the findings to be context-dependent while providing insights into the learning processes that took place among the teachers and students from the different schools.

2.1. Cultural-Historical Activity Theory

The research approach was guided by Cultural-historical Activity Theory (hereinafter Activity Theory) as described by Engeström [6,7]. Activity Theory is interventionist and has the potential to promote the agency of participants, collectively as well as within individuals [22]. In the model of the activity system, different elements are arranged in ways that clarify their interrelationships (see Figure 1). The Subject works on the Object using Mediating Artefacts which may be physical or conceptual tools. In achieving this work any system relies on a Culture that has its own Rules that may be customary or statutory; there is also a Division of Labor among those participating in the activity while other members of the wider Community have the potential to contribute.

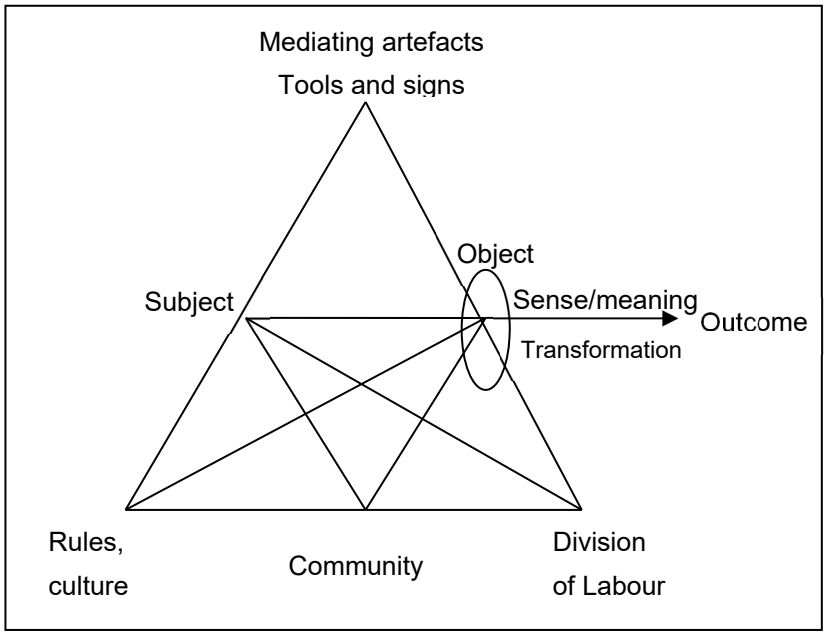

Figure 1. A second generation activity system [37].

Nussbaumer [38] proposes a third generation of Activity Theory in which collective learning takes place through dealing with the tensions and contradictions that occur where activity systems interact with each other. In this case, the Project can be seen as a distinct activity in relation to the wider activity system of the school, which is itself part of its wider education system.

Development or learning within an activity system is generated in response to contradictions or tensions that arise. These can occur within one element of the activity system (primary), between different elements (secondary), between the object of the activity and the object of a "culturally more advanced form" of activity (tertiary) or between the central activity and its neighbor activities (quaternary).

In an effort to resolve such contradictions, participants may re-interpret and expand the problem, e.g., by re-defining the object or purpose of the activity system. Toiviainen & Engeström [39] refer to this ability to develop new forms of activity as *expansive learning*. To some extent, the nature of expansive learning echoes Giddens' concept of structuration [16,17], which describes how the possibility for change is ever present as rules are used in

any social setting. This demonstrates the potential agency of participants within the structure of the system, which in turn highlights the constructive alignment between the use of Activity Theory as a research tool and the overall purpose of the project.

2.2. Data Gathering

A phenomenological approach was used [40,41] allowing all available material to be seen as a potential data to inform the research; this included student presentations on their projects, responses to project monitoring questionnaires and posts on a web-based platform.

Activity Theory is generally interventionist with researchers introducing challenges through a series of facilitated workshops termed a "change laboratory" (CL) [22,42]. This is an iterative process of repeated workshops in which participants gather, or are presented with, "mirror data" in each session, which feeds discussion that generates fresh data that informs the next round of activity. After the initial Project meeting there were three more transnational meetings that provided opportunities for CL-type discussions (alongside management issues). This was not a true CL process because there were different participants, particularly students, at each session. Extensive notes were taken throughout the meetings and short focus group discussions were held with students and teachers separately. The question schedule comprised broad questions based on the elements of the activity system (Figure 1).

Whole group discussions with teachers were conducted in English. The students met as a group but were organized into national teams so they could discuss each question in their own national language for ten minutes before providing feedback via members of their group who spoke reasonable English; translators (where possible not their teachers) were on hand if required. Even when discussing the challenges that they faced, students were highly motivated and eager to contribute. Those who lacked the necessary English skills to report back were animated in the small group discussions ahead of their spokesperson's response. Interviews were recorded using a digital voice recorder to facilitate verbatim transcription; written notes were taken as a back-up measure.

The research was conducted in line with relevant institutional ethical guidelines [43,44]. All participants completed a consent form and parents of all students gave written consent to audio recordings, photographs and video recordings before students travelled to project meetings.

All individuals and institutions were anonymized and quotations below are labelled using the following initials: SF = Female student; SM = male student; TF = female teacher; TM = male teacher. Numbers (1 − n) were assigned to each respondent according to when they first appeared in the transcript while each meeting or focus-group discussion is identified by a letter as follows:

(a) Second transnational meeting;
(b) Third transnational meeting;
(c) Focus group discussions at third transnational meeting;
(d) Fourth transnational meeting;
(e) Focus group discussions at fourth transnational meeting;
(f) Final "mobility" workshop.

Therefore, the code SF7e shows that this was the seventh female to speak at the student focus group discussion during the fourth transnational meeting.

2.3. Research Sample

The sample of students and teachers comprised all those who attended the transnational meetings held in Spain (18 students; 8 teachers), Greece (10 students; 6 teachers) and Slovenia (15 students; 11 teachers). In total this involved 43 students, aged 13–18 and 14 teachers. Insights were also gained from observations of materials and discussions at a larger gathering of some 80 students at the final meeting (the Mobility) also held in Greece

towards the end of the project. All the students were selected by teachers to represent their schools on each occasion. All schools were co-educational and project teams were also of mixed gender (as indicated by the assigned codes). The participating schools were varied in nature:

Greece—Private, fee-paying;
Romania—Gymnasium, selective academic;
England—Academy (state school), non-selective, in area of high social deprivation;
Spain—State school, non-selective, in area with some deprivation;
Slovenia—Technical school, sixth form students selected according to ability/aptitude.

Despite the range of contexts and school types, there was no significant difference among the student groups in terms of their levels of enthusiasm or engagement.

2.4. Data Analysis

Given the small number of schools involved, each from a different context and involving secondary students across a variety of ages, it was decided not to focus on differences between school types as such data would not be meaningful. Similarly, having a dual focus on impacts on both students and teachers, the research did not attempt to differentiate between the impacts on male and female participants, particularly as the modest sample size would not yield meaningful results. Instead, attention was paid to features that were common to students and then teachers as these emerged through the analysis of the data.

Repeated reading of transcripts [45] led to the identification of codes that were clustered to arrive at emerging themes. The clustering of codes into themes and sub-themes was done manually and guided by steps outlined by Braun and Clarke [46]. Initial themes were reviewed to see if any adjustment was required. Data from student focus groups were cross-referenced with those from teachers and the records of project meetings involving both students and teachers. In this way the trustworthiness of the analysis was enhanced [47]. The data were analyzed in hard copy in preference to extended screen time; this involved cutting data units out from photocopied sheets and assigning the strips of paper into piles for subsequent storage in labelled envelopes. Computer-aided qualitative data analysis may have speeded up analysis but not deepened it significantly as physically handling strips of paper with data units and assigning them to different piles actually affords time for reflection and a kinesthetic engagement in the analysis that software can deny the researcher.

3. Results

Before presenting outcomes of the data analysis, it should be noted that from the perspective of participating students and teachers, the project resulted in a wealth of community projects including the eco-friendly design of a new school sports hall, a successful campaign for a new cycle path, the design and development of a re-useable electronic conference badge and fund-raising activities for a food bank and blood bank. The involvement of adults varied from close support and direction, particularly for some of the younger students, to an almost completely "hands-off" approach that left students to develop their ideas entirely on their own. The Project design itself emphasized the importance of student-led projects with minimal input from adults although this proved difficult for teachers, something that became a key learning point.

Seven key themes were identified from the data:

1. Various project purposes;
2. Students' learning;
3. Teachers' roles;
4. Cultural shifts;
5. Assessment/evaluation of students;
6. Community engagement;

7. How to run projects.

Several of themes were divided into sub-themes indicted by letters (e.g., 1a, 1b). The bullet lists below each heading reflect the final coding. Some examples from the data are given for illustrative purposes.

3.1. Theme 1: Project Purposes

This reflects discussions around the "object" of the activity system, i.e., what participants felt was the primary focus of the Project. Despite all participating schools signing up to a project proposal, which had clear objectives, it was not surprising to find these interpreted differently given the scale of the project. Three sub-themes were identifiable from discussions on the Project's purpose:

3.1.1. Objectives External to the School (1a)

- Helping the community;
- Demonstrating to others how to move away from "old school" practices.

Only the students saw the focus of the Project as external to the school; this may reflect some confusion between the overall activity (the Project) and their own local community projects.

3.1.2. Pedagogic Innovation (1b)

- Innovation in teaching and learning methods;
- To work with unknown answers;

Innovation was a common thread, particularly in relation to teaching approaches. Mid-way through the Project this teacher explained how he hoped "to work with unknown answers", moving away from his school's existing practice, which he characterized thus:

> *"I feel that the students are given 'ready thinks' and not something that they will do themselves, find it themselves, work it out by themselves."* (TM4c)

3.1.3. Student Development (1c)

- To get students to work with society;
- Giving young people opportunity to change something;
- Building students' skills, e.g., team working; creative thinking;
- Broadening the horizon of students.

Most of the teachers focused on how the project would enhance their students' learning, which is reflected in the subsequent themes, this in turn reflects the element of the research question pertaining to impact on students.

3.2. Theme 2: Students' Learning

This is one of the core themes of the research question, i.e., impact on students. Discussions with students focused initially on their community work and how much they enjoyed the international dimension of the Project before turning to what the students had gained in terms of their learning. These responses could be gathered under two inter-related sub-themes: (a) working together and (b) personal development.

3.2.1. Sub-Theme 2a: Working Together

Specific codes under this sub-theme were:

- Team work/collaboration—an essential element of all projects;
- Listening to each other—e.g., initially "noisy" students learned to step back and hear other ideas;

- Communication—this relates to listening but also to making one's points more understandable;
- Giving constructive criticism—learning not to offend or upset team mates; diplomacy;
- Negotiation—realizing that winning the argument did not always provide the best solution;
- Tolerance—even when ideas do not make sense, hear them out.

The issue of teamwork was raised frequently by students and by teachers, who claimed that students were initially not used to teamwork and had to learn it. Students offered some thoughtful analysis on what teamwork should entail, including ideas about optimal team size:

> *"So, there are seven of us in a team, and we have weekly meetings … but it is not always easy because seven is quite a large number. It doesn't sound like a large number, but it is, because, when you are trying to complete a single task, seven people talking over each other, trying to insert their opinion isn't so easy to manage. So, when we had some individual task work where there were two or three people involved, the project progressed much faster."* (SM5e)

Others noted how having more people in their teams gave them a greater choice of skills. In this way young people were building their own theories of teamwork based on experience rather than formal teaching. There was also recognition that teamwork was not the norm in their schools:

> *"There isn't really a lot of celebration of groups apart from sports teams and things like that. I think there definitely should be, though. It would make things a lot more motivational and people would want to work together rather than wanting to achieve all the goals for themselves."* (SF13f)

This emphasizes the high degree of individualism in schools but also points to the importance of enjoyment. Students saw "having fun" as being both motivational and valuable to their teams and as individuals.

3.2.2. Sub-Theme 2b: Personal Development

Specific codes under this sub-theme were:

- Positivity—feeling good about working together—a huge sense of fun;
- Planning ahead—realizing that having an initial plan is the best way to start something, even of the plan is not the way that things happened in the end;
- Critical thinking—not only accepting other views but actively imagining them in order to improve an idea;
- Creative thinking—e.g., coming up with multiple solutions before choosing one.

A general feeling of positivity informed the students' discussions as they reflected on their learning:

> *"First of all, … you kind of don't want to do it because it is a lot of work and, if you do it, you are proud of it and it is a really great feeling when you achieve something."* (SM7e)

> *"One skill, I think that we prove it, is to listen to the opinions of our classmates, the other pupils that are with us, and we learnt, too, that everything is possible if we think with creativity and think … in a very positive way."* (SM5f)

The second of these extracts goes beyond feeling good; the student is clearly expressing a growing sense of agency when she declares that "everything is possible". Perhaps surprisingly, this was one of the few cases where students discussed agency directly, however, their actions supplied examples (see Section 3.6). Furthermore, the presentation of their projects at various meetings demonstrated amply their ability to envision, plan and create change.

3.2.3. Inter-Disciplinary Working (2c)

This was not a common theme although one student was eloquent on how their local project drew on "different disciplines":

> *"If you are in one dimension, you only see lines in front of you, but, when you expand with different disciplines, you start seeing things in 3D; you can imagine them and you can develop your ideas even further."* (SM7e)

In terms of the research question relating to impacts on students, the data presented above suggests a wide range of impacts in terms of learning. Given the confines of a single paper, these are presented largely as lists, however, the section on contradictions (Section 3.6) provides further evidence of *how* students developed their learning rather than simply what they learned.

The above sub-themes were verified either by students providing examples or by being echoed in the teachers' responses. The students' awareness of their own learning was impressive and doubtless enhanced by the reflective nature of the focus group discussions.

3.3. Theme 3: Teacher's Role

In terms of the research question relating to impacts and implications for teachers, this theme outlines an important range of evidence. As with the student learning, the themes are deepened in the discussion on contradictions (Section 3.6).

Sub-themes were again inter-related while making a distinction between (a) *how* teachers interact with their students, requiring in turn a greater flexibility in their role(s) and (b) *who* they are as a person.

3.3.1. Teacher as Facilitator (3a)

Codes under this sub-theme could be further sub-divided, with the first set suggesting passive facilitation:

- Respect for pupils (listening—understanding—humility);
- Giving students space—letting them make mistakes;
- Not having all the answers—not something that came naturally to many of these teachers;
- Allowing students time to prepare—stepping back from a focus on end results and allowing processes to happen.

There was a strong emphasis here on becoming a more empathetic teacher, "giving students space" was underpinned by recommendations offered by students such as "Be kind" and "Do Less".

Other codes under this sub-theme suggested a more active style of facilitation:

- Liaison with other school projects/parts of the school—working, often behind the scenes, to ensure that the students find a listening ear when they seek assistance;
- Motivator-guide—giving encouragement from the sidelines without taking over;
- Promoting engagement—"unblocking" students—stepping in to ask questions and deepen the discussion when students feel stuck.

Again, student responses supported these ideas, for example describing how teachers showed them how to do research including web searches to find the information they needed.

3.3.2. Who the Teacher Is (3b)

- "More insecure"—this is not comfortable for many teachers (see data below);
- Increased motivation—emotional engagement—sense of "mission"—contributing to the general sense of positivity around the project;
- Open mindedness—when students surprise you with what they could do, accept this and avoid negativity in the face of apparently crazy ideas;

- Creativity (innovation/flexibility/entrepreneurship)—recognizing this in students can bring it out in teachers.

Attempting of enhance student agency involved shifts in teachers' professional practice; above all, the passive facilitation mode proved challenging, particularly to those teachers who appeared to be naturally more authoritarian in nature. These teachers, who also felt the greatest change in their practice, were especially enthusiastic about this new approach. One of these teacher's key learning points was to:

> *"…first step from the cathedral down and sit among the students.* (TF3e)

She went on to explain:

> *"The students fear that they would make a mistake, and, when you are a teacher, they constantly fear that they will say something wrong. If they don't have that, if you can break down that fear, then your* (work is) *done, because they are full of ideas. Their heads are full of ideas. If they fear to speak them out loud, then you will never know."* (TF3e)

This teacher also recognized how her students were "actually waiting to unfold their talents;" these were attributes that she had not recognized before embarking on the Project activity. For some, this new way of working marked a significant moment in their professional development:

> *"It changed the fact that I don't have to know everything. I was very anxious at the beginning of my teaching career because I was expected to know everything. This project changed this mentality for me."* (TF4e)

Although there was widespread agreement that this style of education was different, it was not always a comfortable experience, as this teacher explained:

> *"I can say that I am more insecure when I am in the class doing these projects. I don't know what will happen, so I don't know how I will have to react to that … The feeling that you have, doing this project, is not the same as (when) you are in control of a class."* (TF1e)

Nevertheless, she shared in her students' enjoyment:

> *"…nearly the end of the project, you feel good; they have attained something. They can show what they have learned to others, and you feel good. But it is true that going into this process, it is like, 'What will happen today?'"* (TF1e)

The discomfort on the part of the teachers was indeed rewarded judging by the testimony provided by students in a focus group discussion away from their teachers during a subsequent transnational meeting:

> *"I think our relationships with the teachers have really improved. So, that is something we are going to carry into the next year."* (SM5f)

By empowering their students, the teachers came to know them better, this led to them appreciating them more as rounded fuller human beings. This appears to have led to students appreciating their teachers more fully in return. This improvement in student-teacher relationships is reflected in the next theme.

3.4. Theme 4: Cultural Shifts

This theme most closely related to the element of the research question pertaining to implications for teachers. It reflects much of the foregoing evidence although here the focus is on changes in atmosphere rather than the personal attributes of participants. The codes were:

- Moving away from individualism (see below);
- More permissive—"creating your own rules";
- Negotiation—more listening to students;
- Relaxed atmosphere—this relates to openness to students' ideas (3b);

- Rules still apply (only the culture is different)—teachers must still operate within the law and retain responsibility for their students;
- Vertical learning—generative effect exemplified by students deciding to work with younger classes.

Evidence of reduced individualism was mentioned by the students above; students also noticed the shift in power relations:

> *"...in this project, we have more power than usual. In our school, every single teacher asked what do we want to do and at every meeting … went something like this, 'What do you want? What do you want to build?' We were listened to and our opinion matters."* (SF7e)

> *"It is more of a relaxed conversation about basically anything."* (SM16f)

Despite both teachers and students learning how to negotiate this increased freedom, teachers were also adamant that the rules of the school had not changed. This led to one of the contradictions discussed below (see Section 3.6.1). One significant innovation was the vertical integration of the projects within at least one school initially. The homogeneity of classroom with pupils of similar ability and the same year group has been identified as a missed learning opportunity [48], yet here students were voluntarily working with younger classes:

> *"It is the last year in my school, but I have younger friends, and I think I am going to come back to school and participate further, because I would like to see the construction and everything."* (SF7f)

The practice of speaking to different year groups was initiated by students in one of the participating schools because they wanted the next generation to build on their experience. This idea was received enthusiastically when shared with students and teachers from the other schools at our final meeting.

3.5. Additional Themes

The remaining three themes lie beyond the scope of a single article but are worthy of further discussion.

3.5.1. Theme 5: Assessment/Evaluation of Students

- Use of a "rubric" to guide/self-assessment;
- Presentations (including presenting projects to others at the Project meetings);
- Feedback from parents.

Assessment is of great interest given the evident contradiction between the dominant measurement culture in schools [49] and the qualitative approaches suggested in this short list. However, this was not an aspect that many teachers had begun to consider as discussions in the transnational meetings focused on practicalities of facilitating student-led projects and their qualitative impact.

3.5.2. Theme 6: Community Engagement

- External communication/liaison (e.g., with media, municipalities, architects, police, Red Cross);
- "Schools can get in the way" when involving peers and other stakeholders;
- Continuum: Parents—wider family—community.

Again, community interactions were central to the Project but discussions focused on the capacities of students and teachers in order facilitate this rather than the nature of the engagements themselves.

3.5.3. Theme 7: How to Run Projects—From the Students' Perspective

These are not codes but recommendations by students.

- Manage your support from teachers, seek different levels of support from different teachers and avoid getting too much;
- Maintain the legacy of the project, e.g., by keeping in touch with classes below as you move on;
- Use learning from the project, e.g., talking to older people, for personal development/growth;
- Decide how to choose your project and resolve conflicts (e.g., voting, guidelines, consensus);
- Consider how your project fits its context, "in this time and this place";
- Work cooperatively across time and space, e.g., using digital platforms;
- Set objectives—and be prepared to exceed them;
- Use time, e.g., deadlines, to get things done;
- Adjust to the available resources, e.g., money, time, workload;
- Use your team to keep motivated;
- Be realistic in making community links, consider what is possible/impossible.

This reflects some of the learning discussed above (Section 3.2) demonstrating a wealth of practical experience. It contributed to the development of a useful "how to" guide, another project output.

3.6. Contradictions

3.6.1. Novel Teaching Approaches vs. Unchanging Rules

As mentioned under Section 3.4, schools still operated within their existing rules and laws regardless of their aspiration to innovate with community-based learning. In Activity Theory terms this is a secondary contradiction that has arisen between the rules of the activity system and mediating artefact of teachers' practice.

Challenges to teachers as leaders of student learning became apparent at our second Project meeting where an example of expansive learning arose. Students and teachers, representing two sides of the contradiction, tentatively moved towards a resolution as recorded in notes from the second transnational meeting:

> *A group of (13-year old) students from the host school challenged their teachers to allow them to choose their own project teams.*
>
> *The teachers explained that they were concerned about friends choosing each other; it was the teachers' responsibility to ensure that no student was excluded from their teams.*
>
> *The students responded by saying that if they knew this—and any other criteria that might be required—they could be trusted to choose the teams accordingly. They asked that teachers should give them the information they need to do this.* (Notes from meeting a)

This was a difficult moment for the staff concerned as it led to an unexpected and very public negotiation. Protagonists on both sides of the argument appeared to be learning simultaneously as the Project coordinator facilitated the discussion. The resolution came in the form of an agreement that teachers would be more open with the students about why they made their decisions. The involvement of the students in making those decisions would be considered in future. This demonstrated how the project was both challenging existing practice and stimulating student agency.

In the subsequent transnational meeting the head of this school commented on how her teachers were finding the Project challenging because they were not used to teaching in this way. They had less control and were becoming more of "a guide for their students".

A teacher from another school described how she was used to letting students work in teams but that her classroom was now much noisier than usual. That said, she was surprised at how mature the students had been, and how they took ownership over their projects. Much as Engeström [6] describes, it is in overcoming the contradiction that learning arises.

3.6.2. A Contradiction between Objects

This is a tertiary contradiction between the object of the Project activity (student development with a focus on Type 2 agency [14]) and that of the wider system of the school with a focus on individual student achievement.

One headteacher found it challenging to engage her teachers in the Project because, as she reported, "*teachers tend to be focused solely on results*" (TF5a). At a subsequent meeting, a student from her school voiced an alternative view that suggested a potential resolution:

> *SF2c: …there are some people that help you to achieve your goals. I mean, we collaborate with all of the school by tests with activities that they want to make.*
>
> *Interviewer: So, you ask them?*
>
> *SF2c: Yes. And most of the teachers, not all, were involved in this project because they helped us… you need people to achieve your goals. You cannot do it all by yourself. You can be by yourself until a point, and, after that, you need someone.*

Again, the potential solution lay not in a teacher taking the lead but in students having enough confidence, and growing sense of agency, to request the support that they needed. This ability to connect to sources of support beyond ourselves is a critical life lesson. That said, schools are not generally arranged to allow staff the time to be responsive to many such requests; that would doubtless raise a serious resourcing issue. This contradiction also underpinned concerns that were raised around the timetabling of project sessions because so much of a school's time is determined by the demands of the curriculum and ultimately examination performance. This raises a far wider question around the purpose of society's investment in formal education.

4. Discussion

This research set out to explore the impact of implementing student led community on secondary school students and consider the professional and pedagogical implications for secondary teachers wishing to lead such action-oriented learning. The following discussion reflects on these two components separately before moving onto wider questions about schooling itself that this study raises.

4.1. Impacts on Student Learning

The research cannot claim to have identified impact on academic achievement, rather the results indicate a wide range of softer skills that examinations struggle to measure. Agency was not referred to directly, rather it was described in terms of what the students did and how they sensed a shift in power relations, remarking, for example, on how teachers listened to their opinions. The range and complexity of tasks conducted by the students in terms of research, team building, decision-making, building relationships with external stakeholders—all before actually taking action, ensured that they had the power of agency as well as demonstrating agentic power [14].

As noted in Section 3.2, the dialogic nature of the research itself had a part to play. By having opportunities to engage in reflective discussion, the students were able to recognize the nature of their achievements and relate this independently to their own development. This relational agency may well have emerged without these reflective discussions but it might have gone unnoticed if the research had relied on more remote research instruments such as questionnaires or observation schedules.

A feature of the Project outcomes was the way in which students chose to link their community work to social and/or environmental issues rather than say, economic imperatives. By linking this action-oriented approach to issues that combined social, environmental and in some cases infrastructural concerns, the students fully combined ESD1 (education *for* sustainability) with ESD2 (education *as* sustainability) [23]. In this way, they

helped to ensure that the Project become an exemplar of transformative education for sustainable development.

Another highly evident outcome worthy of attention was the positive emotional response noted during the data gathering exercises. The students were clearly motivated by their local projects and gained confidence regardless of whether individual projects achieved their goals. This sense of enjoyment, of fun, was both an outcome of, and a strong contributory factor to, the Project's success. The international dimension of the Project was clearly important in generating the excitement that surrounded it. This aspect would be difficult to recreate without considerable resources, however, the participating students were adamant that their peers back at home shared equally in their enjoyment of the activity.

This resonates strongly with the "positivity" dimension of the PERMA model discussed earlier [28]. This is not something that was deliberately built in to the project, rather it emerged as an outcome of meaningful engagement in—or connection with—issues and actors external to the school and also with peers. Indeed, actions taken in the Project reflect each of the PERMA components:

Positive emotions: An outcome rather than a project "ingredient" this was certainly facilitated by the shift in the teacher role revealed under Theme 3 such as motivation, promoting engagement and openness to the students' ideas. Evidence from projects elsewhere [25,26,50] have also shown the positive psychological impact of taking concrete action even in the face of global challenges.

Engagement: As students planned and redrafted their ideas, they became immersed in the different dimensions of the problems they were solving; chief among these was how to work together as witnessed by student reflections on what made good team work (Theme 2a). In this way, the different dimensions of the PERMA model appear to be reinforcing.

Relationships: The sense of connection—and how to facilitate it—emerged as central to the success of the project process as well as the range of outcomes that participants reported.

Meaning: This again, was achieved as a result of the students' immersion in the problems they set out to tackle. The wider sustainability context appeared to be important in that no student project was targeted at improving things for themselves, rather, their efforts focused on making a better world in different ways.

Accomplishment: While this may be understood as achieving a pre-set goal, the sense of accomplishment that emerged from the data was the growing understanding on the part of both students and teachers of how to do this kind of activity well. This was reflected in Theme 2 (student learning), Theme 3 (Teachers' role), Theme 4 (Cultural shifts) and Theme 7 (Project guidelines). In light of this, we might usefully replace "accomplishment" with "learning".

While the Project activity could be mapped against the PERMA framework, the students' activity, which generated the learning outcomes reported above, could be summed up by three interrelated elements:

Connection: A great deal of positivity was generated by relationships among and between students, teachers and other stakeholders. An important aspect of this was the communication and understanding required in establishing effective teamwork. Connectivity also underpinned the students' motivation as their activities linked the world of school to the places where they lived; their choice of topics also bridged the gap between global issues and local action. Crucially, through such connections, we can start to recognize ourselves as part of a complex adaptive system, i.e., something greater than ourselves. In the sustainability competence literature [28–33], this aligns closely with "systemic thinking" but also "attentiveness", "empathy" and "transdisciplinarity" [32].

Planning: Students were immersed in thinking ahead, working towards a goal, replanning, adjusting. There was a great sense of momentum towards goals that the students had set themselves rather than externally set measures of achievement. This self-

defined aspect was clearly important in achieving the levels of student engagement observed on the Project while having these goals taken seriously by their teachers added to students' sense of agency. This aligns with the "vision" stage of action competence [27] or "optimistic thinking" [51] and links to the "anticipatory" [32] or "futures" competence [30,33] in ESD frameworks.

Action: The community-based projects matched both of the criteria for an "action" under the action competence approach [27], i.e., they were (a) student-led and (b) targeted at creating change. That said, simply doing something, physically or conceptually (usually with others), even if a specific goal was not accomplished, was a critical element in students deriving a positive impact from the Project. Together with making connections and setting objectives, taking action clearly had an energizing effect. This aligns closely with "participation" and "action" in the Rounder Sense of Purpose ESD competence framework [33].

These three elements should not be confused with the project cycle; they are mutually reinforcing attributes that do not necessarily occur in the order listed above. Connections can result from actions while planning might happen only after acting in an unstructured manner. Projects however, do provide an effective format for realizing these elements. The positivity that resulted from these elements, is a significant outcome in itself. In light of the global challenges facing society, it is critical that learning for sustainability engages young people in what is happening in their world *without* demoralizing them. As Trott writes, "youths' everyday activism matters because it can operate as an antidote to despair" [52] (p. 57). Facilitating opportunities for students to connect, plan and act is the least we should do.

4.2. "Step from the Cathedral down"—Professional and Pedagogical Implications for Teachers

The Project's aim of stimulating student agency through student-led activity clearly challenged teachers' professional practice. Free reign was not granted to the students, this would have been inappropriate; the data highlighted the need to "do less", not "do nothing". Furthermore, shared decision-making, i.e., between young people and adults, is ranked above youth-led action in Hart's ladder of children's participation [11].

Students who turned to different teachers for support (Section 3.6.2) showed how this might work. For their part, the teachers who made themselves available, even when not called upon for long periods, appeared to be of greatest value to their student teams.

Much of the evidence pointed not to *what* the teachers did but how they *were* with their students. This was not a skill acquired with training but a fundamental change of manner generated by the nature of the Project; little wonder that some teachers found these adjustments uncomfortable. Several ESD competence frameworks draw upon the UNECE model [29] that is structured using the four pillars of learning [53]: Learning to know; Learning to do; Learning to be; Learning to live and work together. A recent analysis of these frameworks [34] suggests that the "learning to be" dimension is the one most overlooked. Yet this was the very aspect addressed most clearly in the students' responses, which made a strong case for a more empathetic teacher who respected their students as rounded human beings. This is not to imply that teachers are not generally empathetic or respectful but in this context their respect and understanding is sought for students as agentic individuals, pursuing objectives of their own rather than as future achievers pursuing the academic success by which teachers and their schools might be judged.

The teachers' learning on the Project often mirrored that of the young people. As students gained a sense of agency so their teachers learned, tentatively, the art of gradually diminishing control. This was evident during the interaction between the 13-year old students and their teachers (Section 3.6.1). That situation stimulated expansive learning [6] that led to re-thinking the roles and responsibilities of all participants. Of course, the teachers had professional, legal and safeguarding responsibilities to consider which the students wanted to have revealed, discussed and ultimately shared.

As the teachers intimated, ceding power is not easy, neither should it be taken lightly. Holding on to responsibility can have the appearance of holding onto power, yet responsibility lies at the core of a teacher's professionalism [54]. This is not to suggest that teachers become unprofessional; however, empowering students can demand a degree of *un*-learning of professional habits on the part of teachers lest their very professionalism become a tool by which they withhold power from their students.

In the case of the Project, one answer lay in making professional responsibilities explicit so that they could be comprehended and possibly shared. This was not a matter of delegation, rather it demanded a process of negotiation, constrained by legal "red lines" that should not be crossed. Understanding this became a crucial part of the students' learning; recognizing the need to do it was a significant contribution to the teachers' professional development.

4.3. Wider Implications

The teachers who participated in the Project did so with the approval and encouragement of their headteachers. The need for supportive leadership within schools and the wider education system cannot be overstated, yet this type of project, outside of extracurricular activity, is not the norm in secondary schools. As this research suggests, such activity requires a cultural shift. There is no quick fix to bring this about; cultural change is likely to be incremental if it is to be sustained. Activities such as the Project can make an important contribution because they work with in-service teachers rather than focusing on pre-service teachers who tend to adopt the culture of their new school [55]. However, the recommendation that teachers negotiate their role in order to empower students assumes that teachers—and even headteachers—have the freedom to unlearn habits of mind in order to negotiate with their students. This is far from the case in many secondary schools, particularly in education systems that are subject to neoliberal systems of accountability whose performative routines are well documented [56,57]. Even as practitioners and researchers work to demonstrate the impacts of empowering education for sustainability, teachers, who have a crucial role in enacting it, often lack the agency to do so [21].

Transformative modes of education are unlikely to become widespread in schools without a transformation in education policy priorities. Yet, policy, and formal education generally, lag behind the urgent need for change that young people are already calling for in their networked multitudes [5]. At the start of 2021 there is little indication that any country involved in the project is likely to waver from their preoccupation with academic standards in favor of personal and social wellbeing, even as some national education leaders express their anxiety over the latter [58]. This implies a call to action by policy makers but also highlights the role of educational researchers in building the case for raising academic performance through students' engagement in authentic sustainability concerns and by highlighting the role of agentic teachers in bringing this about. This might be seen as playing the performativity game, however arguing for a diminution in standards would be counterproductive if not perverse. Research already exists linking academic achievement with student agency in contexts as diverse as flipped classroom teaching [59] and gamification [60]. Similar and larger studies that make the case in relation to student activism for sustainability would be doubly beneficial if they integrated reflective learning for students and teachers so that local impacts were achieved and shared even where political processes are slow to react.

A significant possibility for change that affects all countries is the re-calibration of national priorities in the light of the COVID-19 pandemic. Recently announced health reforms in England for example [61], suggest that even right-of-center governments are prepared to roll back neoliberal, competition-based policies in recognition that these are not always in the best interests of the wellbeing of communities. Those arguing for empowering forms of education can point to education policies that militate against this as "pre-pandemic thinking". It could be argued after all that the pandemic has highlighted the

value of having engaged, creative, agentic citizens who can work together, qualities that this research has certainly highlighted and that ESD seeks to engender more generally.

4.4. Research Limitations and Further Enquiry

4.4.1. Limitations

This research can make no claims of universality given the numbers of participants; while the Project worked with over 100 students and many teachers from five secondary schools, only a third of the students were involved directly in the research.

It should also be acknowledged that the impacts on students and teachers were self-reported rather than tested in any quantitative manner, neither was it feasible to observe the project activities on the ground as they took place in the five countries. That said, qualitative findings can offer a deeper understanding of experiences and where processes and impacts occurred across the different schools, it would be fair to claim that there may be some transferability to schools elsewhere.

The change laboratory approach is particularly demanding in terms of time and organization and it was not possible to conduct it in the structured and fully iterative manner recommended [22,42]; however, the essential elements were in place, e.g., facilitated, stakeholder dialogue and reflection on evidence gathered from earlier meetings. This is something to consider at the design stage of future project proposals.

It has been noted that no attempt was made to differentiate the impacts experienced by different gender groups. Indeed, this whole approach presupposes that students are equally comfortable—or reticent—in attempting to interact with their wider community. The students on this project were entirely non-disabled, neurotypical and of white European heritage. The majority, although by no means all, could be characterized as middle class. For those students who do not "see themselves" in the community surrounding their school, projects such as this may present different barriers, policy implications and learning potential. This is something a subsequent research project would do well to explore, albeit with a high degree of sensitivity.

4.4.2. Possibilities for Further Enquiry

A follow-up project is in progress although the three-element model of connect-plan-act was not defined in time for the initial proposal. The interruption caused by COVID-19 led to a re-organization which in turn provided an opportunity to introduce the model and subsequently investigate the extent to which it assisted the project under trying circumstances.

An unforeseen outcome of the Project was the dimension of inter-generational learning whereby students started working with the classes that followed them. This is an interesting mechanism by which school culture may change or be maintained over time; something that lends itself to a longitudinal study.

Lastly, further research that demonstrates the impact of projects of this kind on students' academic achievement would be a welcome contribution and/or stimulus to wider policy debate on the purpose of education and its share of responsibility for the long-term habitability of our planet.

5. Conclusions

This research showed how involving students in developing their own community-based projects brought benefits to them and very probably to wider society. It also identified possibilities for teachers' continuing professional development which raises awareness of the ways in which they both promote and deny student agency. Findings also exposed the need for cultural shifts, even in schools already predisposed to running such student-led projects. While there is no suggestion that schools should replicate the Project, which had the luxury of external funding, the three elements of connection, planning and

action are worthy of careful consideration as they can be achieved at any scale and in any context.

Recognizing that schools wishing to nurture student agency require a culture that supports the professional agency of teachers, has implications for policy, which in turn requires compelling evidence to support it. This research contributes to the evidence that is essential if schooling is to evolve into something recognizable as learning *as* sustainable development.

Funding: This research was funded by the European Union Erasmus+ program, Agreement Number: 2017-1-UK01-KA201-036517

Institutional Review Board Statement: The study was conducted according to the guidelines of the Declaration of Helsinki, and approved by the Ethics Committee of the University of Gloucestershire, School of Education (REC02-18; 23/02/2018).

Informed Consent Statement: Informed consent was obtained from all subjects involved in the study.

Data Availability Statement: The data presented in this study are available on request from the corresponding author. The data are not publicly available due to privacy concerns, i.e., names of individuals used in transcripts.

Acknowledgments: The preparation of this paper was assisted by my colleague Alex Masardo who was involved in reviewing data and discussing preliminary findings. Thanks are also due to the late Jan Gejel of Working with Europe for initiating the project. The author also wishes to acknowledge the support of the pupils and staff of all the schools that participated in this project and the Erasmus+ UK National Agency (British Council) and the University of Gloucestershire University Funding Office for their support throughout the project. Lastly, thank you to my four reviewers for reading the paper so thoroughly and providing detailed feedback that helped me to improve on the original submission.

Conflicts of Interest: The author declares no conflict of interest.

References

1. Hicks, D. *Lessons for the Future: The Missing Dimension in Education*; Routledge Falmer: London, UK, 2002.
2. Hicks, D. Stories of hope: A response to the 'psychology of despair'. *Environ. Educ. Res.* **1998**, *4*, 165–176.
3. Corner, A.; Roberts, O.; Chiari, S.; Voller, S.; Mayrhuber, E.; Mandl, S.; Monson, K. How do young people engage with climate change? The role of knowledge, values, message framing, and trusted communicators. *WIREs Clim. Chang.* **2015**, *6*, 523–534, doi:10.1002/wcc.353.
4. Qvortrup, J. Are Children Human Beings or Human Becomings? A Critical Assessment of Outcome Thinking. *Riv. Internazionale Sci. Soc.* **2009**, *3–4*, 631–653.
5. Global Climate Strike. Available online: https://globalclimatestrike.net (accessed on 17 December 2020).
6. Engeström, Y. Learning by Expanding: An Activity—Theoretical Approach to Developmental Research. Available online: http://lchc.ucsd.edu/mca/Paper/Engestrom/expanding (accessed on 17 July 2018).
7. Engeström, Y. (Ed.) *Perspectives on Activity Theory*; Cambridge University Press: Cambridge, UK, 1999.
8. Taylor, N.; Quinn, F.; Jenkins, K.; Miller-Brown, H.; Rizk, N.; Prodromou, T.; Serow, P.; Taylor, S. Education for Sustainability in the Secondary Sector—A Review. *J. Educ. Sustain. Dev.* **2019**, *13*, 102–122.
9. Blanchet-Cohen, N. Rainbow Warriors: The Unfolding of Agency in Early Adolescents' Environmental Involvement. In *Engaging Environmental Education: Learning, Culture and Agency*; Stevenson, R.B., Dillon, J., Eds.; Sense Publishers: Rotterdam, The Netherlands, 2010; pp. 31–57.
10. Rousseau, J.-J. *Emile or on Education. Extracts*; Translation by Eleanor Worthington; Heath & Co: Boston, MA, USA, 1889.
11. Hart, R. *Children's Participation from Tokenism to Citizenship*; UNICEF Innocenti Research Centre: Florence, Italy, 1992.
12. Arnstein, S.R. A Ladder of Citizen Participation. *J. Am. Plan. Assoc.* **1969**, *35*, 216–224.
13. OECD. *The Future We Want*; The Future of Education and Skills 2030 Project; OECD: Paris, France, 2018.
14. Campbell, C. Distinguishing the Power of Agency from Agentic Power: A Note on Weber and the "Black Box" of Personal Agency. *Sociol. Theory* **2009**, *27*, 407–418. Available online: https://www.jstor.org/stable/40376120 (accessed on 4 September 2020).
15. Von Braun, J. Children as Agents of Change for Sustainable Development. In *Children and Sustainable Development: Ecological Education in a Globalized World*; Battro, A.M., Léna, P., Sorondo, M.S., Von Braun, J., Eds.; Springer: Dordrecht, The Netherlands, 2017; pp. 17–30.
16. Giddens, A. *The Third Way*; Polity Press: Cambridge, UK, 1998.

17. Giddens, A. Structuration theory: Past, present and future. In *Giddens' Theory of Structuration: A Critical Appreciation*; Bryant, C.G.A., Jary, D., Eds.; Routledge: London, UK, 1991; pp. 201–221.
18. Apple, M. *Can Education Change Society?* Routledge: London, UK; New York, NY, USA, 2013.
19. Giroux, H.A. Rethinking Education as the Practice of Freedom: Paulo Freire and the promise of critical pedagogy. *Policy Futures Educ.* **2010**, *8*, 715–721.
20. Freire, P. *Pedagogy of the Oppressed*; Penguin: London, UK, 1968.
21. Durrant, J. *Teacher Agency, Professional Development and School Improvement*; Routledge: London, UK, 2019.
22. Englund, C.; Price, L. Facilitating agency: The change laboratory as an intervention for collaborative sustainable development in higher education. *Int. J. Acad. Dev.* **2018**, *23*, 192–205, doi:10.1080/1360144X.2018.1478837.
23. Vare, P.; Scott, W.A.H. Learning for a Change: Exploring the relationship between education and sustainable development. *J. Educ. Sustain. Dev.* **2007**, *1*, 191–198.
24. Aguirre-Bielschowsky, I.; Lawson, R.; Stephenson, J.; Todd, S. Energy literacy and agency of New Zealand children. *Environ. Educ. Res.* **2017**, *23*, 832–854, doi:10.1080/13504622.2015.1054267.
25. Trott, C.D. Children's constructive climate change engagement: Empowering awareness, agency, and action. *Environ. Educ. Res.* **2020**, *26*, 532–554, doi:10.1080/13504622.2019.1675594.
26. Blanchet-Cohen, N. Taking a stance: Child agency across the dimensions of early adolescents' environmental involvement. *Environ. Educ. Res.* **2008**, *14*, 257–272, doi:10.1080/13504620802156496.
27. Jensen, B.B.; Schnack, K. The Action Competence Approach in Environmental Education. *Environ. Educ. Res.* **1997**, *3*, 163–178, published online 2006, doi:10.1080/1350462060094305 3.
28. Positive Psychology Blog. Available online: https://positivepsychology.com/perma-model/#seligman-perma-model (Accessed on 4 September 2020).
29. Sleurs, W. *Competencies for ESD (Education for Sustainable Development) Teachers: A Framework to Integrate ESD in the Curriculum of Teacher Training Institutes; Curriculum, Sustainable Development, Competences, Teacher Training (CSCT)*; Comenius 2.1 Project; UN: Brussels, Belgium, 2008. Available online: https://www.unece.org/fileadmin/DAM/env/esd/inf.meeting.docs/EGonInd/8mtg/CSCT%20Handbook_Extract.pdf (accessed on 27 November 2020).
30. UNECE. *Learning for the Future: Competences in Education for Sustainable Development*; United Nations Economic Commission for Europe: Geneva, Switzerland, 2012. Available online: https://www.unece.org/fileadmin/DAM/env/esd/ESD_Publications/Competences_Publication.pdf (accessed on 27 November 2020).
31. Bertschy, F.; Künzli, C.; Lehmann, M. Teachers' Competencies for the Implementation of Educational Offers in the Field of Education for Sustainable Development. *Sustainability* **2013**, *5*, 5067–5080, doi:10.3390/su5125067.
32. Rieckmann, M. Chapter 2—Learning to transform the world: Key competencies in ESD. In *Issues and Trends in Education for Sustainable Development*; Leicht, A., Heiss, J., Byun, W.J., Eds.; UNESCO: Paris, France, 2018; pp. 39–59. Available online: http://unesdoc.unesco.org/images/0026/002614/261445E.pdf (accessed on 3 October 2019).
33. Vare, P.; Arro, G.; Hamer, A. de; Del Gobbo, G.; Vries, G. de; Farioli, F.; Kadji-Beltran, C.; Kangur, M., Mayer, M.; Millican, R.; et al. Devising a Competence-Based Training Program for Educators of Sustainable Development: Lessons Learned. *Sustainability* **2019**, *11*, 1890, doi:10.3390/su11071890.
34. Corres, A.; Rieckmann, M.; Espasa, A.; Ruiz-Mallén, I. Educator Competences in Sustainability Education: A Systematic Review of Frameworks. *Sustainability* **2020**, *12*, 9858, doi:10.3390/su12239858.
35. Wilhelm, S.; Förster, R.; Zimmermann, A. Implementing competence orientation—Towards constructively aligned education for sustainable development in university-level teaching-and learning. *Sustainability* **2019**, *11*, 1891.
36. Cohen, L.; Manion, L.; Morrison, K. *Research Methods in Education*; Routledge: London, UK, 2011.
37. Jonassen, D.H.; Land, S.M. (Eds.) *Theoretical Foundation of Learning Environments*; Lawrence Erlbaum Associates: Mahwah, NJ, USA, 2000.
38. Nussbaumer, D. An overview of cultural historical activity theory (CHAT) use in classroom research 2000 to 2009. *Educ. Rev.* **2012**, *64*, 37–55.
39. Toiviainen, H.; Engeström, Y. Expansive Learning in and for Work. In *Knowledge, Values and Educational Policy: A Critical Perspective*; Daniels, H., Lauder, H., Porter, J., Eds.; Routledge: Abingdon, UK, 2009; pp. 95–110.
40. Sohn, B.K.; Thomas, S.P.; Greenberg, K.H.; Pollio, H.R. Hearing the Voices of Students and Teachers: A Phenomenological Approach to Educational Research. *Qual. Res. Educ.* **2017**, *6*, 121–148, doi:10.17583/qre.2017.2374.
41. Marton, F. Phenomenography—Describing Conceptions of the World Around Us. *Instr. Sci.* **1981**, *10*, 177–200.
42. Edwards, A.; Daniels, H.; Gallagher, T.; Ledbetter, J.; Warmington, P. *Improving Inter-Professional Collaborations: Multi-Agency Working for Children's Wellbeing*; Routledge: London, UK, 2009.
43. University of Gloucestershire Ethical Guidelines, Research Ethics: Handbook of Principles and Procedures. Available online: http://www.glos.ac.uk/research/pages/research-ethics.aspx (accessed on 14 December 2017).
44. British Educational Research Association [BERA]. *Ethical Guidelines for Educational Research*, 4th ed.; BERA: London, UK. Available online: https://www.bera.ac.uk/researchers-resources/publications/ethical-guidelines-for-educational-research-2018 (accessed on 15 July 2018).
45. Ritchie, J.; Lewis, J.; McNaughton Nicholls, C.; Ormston, R. *Qualitative Research for the Social Sciences*, 2nd ed.; Sage: London, UK, 2014.
46. Braun, V.; Clarke, V. Using thematic analysis in psychology. *Qual. Res. Psychol.* **2008**, *3*, 77–101, doi:10.1191/1478088706qp063oa.

47. Guba, E.G. Criteria for assessing the trustworthiness of naturalistic inquiries. *Educ. Technol. Res. Dev.* **1981**, *29*, 75–91.
48. Osberg, D.; Biesta, G. The emergent curriculum: Navigating a complex course between unguided learning and planned enculturation. *J. Curric. Stud.* **2008**, *40*, 313–328, doi:10.1080/00220270701610746.
49. Biesta, G. Good education in an age of measurement: On the need to reconnect with the question of purpose in education. *Educ. Assess. Eval. Account.* **2009**, *21*, 33–46, doi:10.1007/s11092-008-9064-9.
50. Ojala, M. Confronting Macrosocial Worries: Worry About Environmental Problems and Proactive Coping Among a Group of Young Volunteers. *Futures* **2007**, *39*, 729–745.
51. Jacquez, F.; Trott, C.; Wren, A.R.; Ashraf, L.J.; Williams, S.E. Dream It! Preliminary Evidence for an Educational Tool to Increase Children's Optimistic Thinking. *Child Youth Care Forum* **2020**, *49*, 877–892, doi:10.1007/s10566-020-09561-6.
52. Trott, C.D. What difference does it make? Exploring the transformative potential of everyday climate crisis activism by children and youth. *Child. Geogr.* **2021**, forthcoming special issue, doi:10.1080/14733285.2020.1870663.
53. Delors, J. *Learning: The Treasure Within: Report to UNESCO of the International Commission on Education for the Twenty-First Century*; UNESCO: Paris, France, 1996.
54. Nikel, J. Making sense of education 'responsibly': Findings from a study of student teachers' understanding(s) of education, sustainable development and Education for Sustainable Development. *Environ. Educ. Res.* **2007**, *13*, 545–564, doi:10.1080/13504620701430778.
55. Popova, A.; Evans, D.K.; Arancibia, V. *Training Teachers on the Job What Works and How to Measure It*; World Bank Policy Research Working Paper; The World Bank: Washington, DC, USA, 2016.
56. Ball, S. The Teacher's Soul and the Terrors of Perfomativity. *J. Educ. Policy* **2003**, *18*, 215–228.
57. Ball, S.; Olmedo, A. Care of the self, resistance and subjectivity under neoliberal governmentalities. *Crit. Stud. Educ.* **2013**, *54*, 85–96.
58. Spielman, A. *The Annual Report of Her Majesty's Chief Inspector of Education, Children's Services and Skills 2019/20*; HMSO: London, UK, 2020.
59. Luo, H.; Yang, T.; Xue, J.; Zuo, M. Impact of student agency on learning performance and learning experience in a flipped classroom. *BJET* **2019**, *50*, 819–831.
60. Taub, M.; Sawyer, R.; Smith, A.; Rowe, J.; Azevedo, R.; Lester, J. The agency effect: The impact of student agency on learning, emotions, and problem-solving behaviors in a game-based learning environment. *Comput. Educ.* **2020**, 147, 103781.
61. Department for Health and Social Care (2021) Press Release—Blueprint Launched for NHS and Social Care Reform Following Pandemic: New Proposals Launched to Join Up Health and Care Services and Embed Lessons Learned from the Coronavirus (COVID-19) Pandemic. Available online: https://www.gov.uk/government/news/blueprint-launched-for-nhs-and-social-care-reform-following-pandemic (accessed on 11 February 2021).